

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (withdrawn): An impeller for superchargers, which is produced by a lost wax casting method, comprising
 - a center axle;
 - a disk-shaped hub extending radially from the center axle; and
 - a plurality of blades extending from the hub, which blades consist of alternately arranged full and splitter blades each having an aerodynamic curved surface,
 - wherein a space defined by an each pair of the adjacent blades forms an undercut extending radially from the center axle, and
 - wherein there are present parting line-correspondence portions only at a trailing edge face, a fillet face and a leading edge face, by which an outer periphery of the respective full blade is defined, in the respective space defined by an adjacent pair of full blades.
 - wherein there are present parting line-correspondence portions "only at a trailing edge face, a fillet face and a leading edge face, by which an outer periphery of the respective full blade is defined", in the respective space defined by an adjacent pair of full blades.
2. (withdrawn): The impeller for superchargers according to claim 1, which is made of a titanium alloy.
3. (withdrawn): The impeller for superchargers according to claim 1, which is made of an aluminum alloy.
4. (withdrawn): The impeller for superchargers according to claim 1, which is made of a

magnesium alloy.

5. (withdrawn): The impeller for superchargers according to claim 2, wherein the impeller is used at an intake side of the supercharger.

6. (currently amended): A method of manufacturing an impeller for superchargers by a lost wax casting process utilizing a die device comprising a plurality of slide supports and a plurality of slide dies each of which is freely rotatably supported by a slide support, the impeller comprising:

a disk-shaped hub extending radially from a center axle; and

a plurality of blades extending from the hub, which blades consist of alternately arranged full and splitter blades each having an aerodynamic curved surface,

wherein a space defined by an each pair of the adjacent blades forms an undercut extending radially from the center axle,

wherein the method comprises the following steps of:

a) forming a sacrificial pattern having substantially the same form as the impeller,
b) coating the sacrificial pattern with a refractory material and subsequently thermally removing the sacrificial pattern to form a casting mold, and

c) casting the impeller with utilization of the casting mold, and

wherein the step (a) of forming the sacrificial pattern is a process of injecting a sacrificial material into a cavity defined by a plurality of slide dies which are arranged radially toward the center axle, and each of which has a groove, having a bottom of the same form as the splitter blade, and a form corresponding to that of a space between an adjacent pair of the full blades; and subsequently moving the slide dies radially outwardly, while freely rotating

themselves around respective motional lines of the radially outwardly moving slide dies thereby releasing them from the sacrificial pattern.

7. (original): The method according to claim 6, wherein a die device used in the step (a) of forming the sacrificial pattern comprises a movable die which moves in a direction of a center axle of forming the sacrificial pattern; a stationary die, the slide dies movable radially with respect to the center axle; and slide supports for supporting the slide dies, whereby the slide dies can be moved in conjunction with one another by driving the slide supports.

8. (previously presented): The method according to claim 6, wherein each of the slide dies comprises a plurality of cores bonded integrally with one another.

9. (currently amended): The method according to claim 6, wherein motional lines for releasing each of the slide dies from the sacrificial pattern are a motional line on XY coordinates on a two-dimensional plane, to which the center ~~shaft~~axle of the impeller is a perpendicular, and a motional line including a rotational component around the motional line on the XY coordinates.

10. (previously presented): The method according to claim 6, wherein the casting mold is formed by coating the sacrificial pattern with any one of zirconia-based, yttria-based and calcia-based refractories, further coating the sacrificial pattern with any one of silica-based, alumina-based and zircon-based refractories, drying the refractory materials, thermally removing the

sacrificial pattern in an autoclave, and calcining the resultant refractory materials at a high temperature.

11. (previously presented): The method according to claim 6, wherein any one of a titanium alloy, an aluminum alloy and a magnesium alloy is cast in the casting mold.

12. (withdrawn): The impeller for superchargers according to claim 3, wherein the impeller is used at an intake side of the supercharger.

13. (withdrawn): The impeller for superchargers according to claim 4, wherein the impeller is used at an intake side of the supercharger.

14. (previously presented): The method according to claim 9, wherein a die device used in the step (a) of forming the sacrificial pattern comprises a movable die which moves in a direction of a center axle of forming the sacrificial pattern; a stationary die, the slide dies movable radially with respect to the center axle; and slide supports for supporting the slide dies, whereby the slide dies can be moved in conjunction with one another by driving the slide supports.

15. (previously presented): The method according to claim 14, wherein each of the slide dies comprises a plurality of cores bonded integrally with one another.

16. (previously presented): The method according to claim 11, wherein the casting mold is formed by coating the sacrificial pattern with any one of zirconia-based, yttria-based and calcia-

based refractories, further coating the sacrificial pattern with any one of silica-based, alumina-based and zircon-based refractories, drying the refractory materials, thermally removing the sacrificial pattern in an autoclave, and calcining the resultant refractory materials at a high temperature.

17. (previously presented): The method according to claim 15, wherein any one of a titanium alloy, an aluminum alloy and a magnesium alloy is cast in the casting mold.

18. (previously presented): The method according to claim 17, wherein the casting mold is formed by coating the sacrificial pattern with any one of zirconia-based, yttria-based and calcia-based refractories, further coating the sacrificial pattern with any one of silica-based, alumina-based and zircon-based refractories, drying the refractory materials, thermally removing the sacrificial pattern in an autoclave, and calcining the resultant refractory materials at a high temperature.